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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Arntzen, Charles J., et al. ART UNIT: 1641  
SERIAL NO: (Continuation of 09/111,330)  
FILED:  
TITLE: VACCINES EXPRESSED IN PLANTS

**INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Attached is Form PTO-1449 listing the relevant art known to the applicant herein. The Examiner is requested to consider the references and make them of record. This application is a continuation of U.S. Serial No. 09/111,330 filed July 7, 1998, which is a continuation of U.S. Serial No. 08/479,742 filed June 6, 1995, which is a divisional of U.S. Serial No. 08/026,393 filed March 4, 1993, which issued as U.S. Patent No. 5,612,487 March 18, 1997, and a continuation-in-part of copending PCT application Serial No. PCT/US94/02332 filed March 4, 1994 (designating the US) which is a continuation-in-part of copending application Serial No. 08/026,393 filed March 4, 1993, which itself is a continuation-in-part of Serial No. 07/750,049 filed August 26, 1991 (now abandoned). This application is also a continuation-in-part of application Serial No. 08/156,508 filed November 23, 1993, which issued as U.S. Patent No. 5,484,719 January 16, 1996. Thus copies of the listed

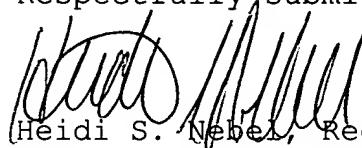
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references are believed to be a part of that file history  
and are not enclosed herewith.

Respectfully submitted,

  
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Section 2. Form PTO - 1449 (Modified)

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE  
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INFORMATION DISCLOSURE

STATEMENT BY APPLICANT  
(Use several sheets if necessary)  
(37 CFR 1.98(b))

ATTY. DOCKET NO.  
P00245US9

SERIAL NO.  
09/111,330

APPLICANTS  
ARNTZEN, ET AL.

FILING DATE  
July 7, 1998

GROUP  
1742

U.S. PTO

09/6734



U.S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4,428,941	01/84	GALIBERT ET AL.	C07C	103/52	
	4,920,209	04/90	DAVIS ET AL	C12N	7/00	06/04/87
	4,940,835	07/10/90	SHAH, ET AL.	900	205	07/07/85
	4,956,282	09/11/90	GOODMAN ET AL.	435	59.51	
	5,324,646	06/94	BUISING ET AL.	C12N	15/00	01/06/92
	5,316,931	05/94	DONSON ET AL.	C12N	15/83	07/31/92
	5,484,719	01/16/96	LAM ET AL.	435	172.3	
	5,654,184	08/05/97	CURTISS	435	172.3	
	5,679,880	10/21/97	CURTISS	800	205	
	5,686,079	11/11/97	CURTISS	424	234.1	

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

	DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION YES      NO
	WO 87/00865	02/12/87	PCT	C12P	21/00	
	EP 0 235 391A	09/09/87	EPO	C07K	13/00	
	EP 0 278 541	01/14/88	EPO	C12	15/00	
	WO 89 01514 A	02/23/89	PCT	CN12	15/00	
	WO 90/02484	03/22/90	PCT	A01H5	00	
	WO 90/10076	09/07/90	PCT	C12N	15/82	
	A-0 510 773 A1	04/22/92	EPO	C12N	15/50	
	WO 92 18618 A	10/29/92	PCT	C12N	7/01	
	WO 93/23421	11/25/93	PCT	C07K	3/00	
	WO 94/20135	09/15/94	PCT	A61K	39/00	
	WO 95 21248 A	08/10/95	PCT	C12N	15/00	
	WO 96 12801 A	05/02/96	PCT	C12N	15/00	
	WO 96 02649 A	02/01/96	PCT	C12N	15/40	

OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)

	Aizpurua, H.J., de, Russell-Jones, G.J., "Oral Vaccination Identification of Classes of Proteins that Provoke an Immune Response upon Oral Feeding," <u>J. Exp. Med.</u> , Vol. 167, pp. 440-451 (1988)
	An, G., "Binary Ti Vectors for Plant Transformation and Promoter Analysis", <u>Methods in Enzymology</u> , Vol. 153, pp. 292-305, (1987)

Section 2. Form PTO - 1449 (Modified)

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		FILING DATE July 7, 1998	GROUP 1742

OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)

		Arntzen, Charles et al., "Production of Candidate Oral Vaccines in Edible Tissues of Transgenic Plants", <u>Vaccines</u> , 94:229-344 (1994)
		Benfey, P.N., Chua, N.H., "Regulated Genes in Transgenic Plants", <u>Science</u> , Vol. 244, pp. 174-181 (1989)
		Bidney, D. et al., "Microprojectile bombardment of plant tissues increases transformation frequency by <i>Agrobacterium tumefaciens</i> ", <u>Plant Molecular Biology</u> , 18:301-313 (1992)
		Blair, J.G., "Test-Tube Gardens", <u>Science</u> , Vol. 82, pp. 71-73 (1982)
		Bovsun, M., "Tobacco Produces Hepatitis Antigens: Vaccines To Go Into Bananas Next", <u>Biotechnology NewsWatch via NewsNet</u> , 12(24), December 21, 1992)
		Brisson, N., "Plant Virus Vectors: Cauliflower Mosaic Virus", <u>Methods in Enzymology</u> , Vol. 118, Academic Press, Inc., pp. 659-668 (1986)
		Capron, A., et al., "Immunity to Schistosomes: Progress Toward Vaccine", <u>Science</u> , Vol. 238, pp. 1065-1072 (1987)
		Cattaneo, R., "Signals regulating hepatitis B surface antigen transcription", <u>Nature</u> 305:336-338 (September 1983)
		Chang, A. et al., "Characterization of a genetically reconstituted high-affinity system for serotonin transport", <u>Proc. Natl. Acad. Sci. USA</u> , Vol. 86, pp. 9611-9615 (1989)
		Christou, P., et al., "Soybean genetic engineering – commercial production of transgenic plants", <u>Trends Biotechnol.</u> , Vol. 8, pp. 146-151 (1990)
		Clontech Laboratories, Inc., Palo Alto, California, Product Catalog, p. 18.4, (1991)

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OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)

		Coghlan, A., "When beans means vaccines", <u>New Scientist</u> , 135:1829:19, July 1992
		Daie, J. et al., "Plants Factories: Production of Industrial Proteins and Non-Food Products in Transgenic Plants", <u>Agro Food Industry Hi-Tech</u> , 4(1):6-8 (Jan/Feb 1993)
		Datta, S.K., et al., "Genetically Engineered Fertile Midica-Rice Recovered From Protoplasts", <u>Bio/Technology</u> , Vol. 8, pp. 736-740 (1990)
		Declaration Under 37 CFR § 1.131 of Charles J. Arntzen 01/10/96
		Deak, M., et al., "Transformation of <i>Medicago</i> by <i>Agrobacterium</i> Mediated Gene Transfer", <u>Plant Cell Reports</u> , Vol. 5, pp. 97-100 (1986)
		dePalma, A., "Agricultural Genetics Co., Ltd. Produces Vaccines for Animals in Cowpea Plants" <u>Genetic Engineering News</u> , 12(13):1, 15 (September 24, 1997. 1, 1992)
		DeWet, J.M.J. et al., "Exogenous gene transfer in maize ( <i>Zea mays</i> ) using DNA-treated pollen", <u>Experimental Manipulation of Ovule Tissue</u> , G.P. Chapman et al. ed., Longman, New York-London, p. 197-209 (1985)
		Dickinson, B.L. et al., "Dissociation of <i>Escherichia coli</i> Heat-Labile Enterotoxin Adjuvanticity from ADP-Ribosyltransferase Activity", <u>Infection and Immunity</u> , Vol. 63, No. 6, pp. 1617-1623
		Dittman, R.E., "Eradicating Disease: Trends in Vaccine Development", <u>Summer 1993 Priorities</u> , pp. 40-42
		Elliston, K. and Messing J., "The Molecular Architecture of Plant Genes and Their Regulation", <u>Plant Biotechnology</u> , Kung/Arntzen, ed., pp. 115-139 (1989)
		Fields, et al., "Virology", Raven Press, N.Y., pp. 1160-1161 and 1219-1221.

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OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)

		Fitchen, J., "Production of Monoclonal Antibodies and Candidate Vaccines in Plants and Plant Cell Cultures", (Abstract) From Meeting of the Tissue Culture Association on Regulation of Cell and Tissue Differentiation, Research Triangle Park, North Carolina USA (June 4-7, 1994)
		Forrest, B.D., "Women, HIV, and Mucosal Immunity", <u>The Lacet</u> , Vol. 337, pp. 835-836 (1991)
		Fraley, R.T., "Genetic Engineering for Crop Improvement", <u>Plant Biotechnology</u> , Kung/Arntzen, ed., pp. 395-407 (1989)
		Frasch, A.C.C. et al., "Comparison of Genes Encoding <i>Trypanosoma cruzi</i> Antigens", <u>Parasitology Today</u> , Vol. 7(6), pp. 148-151 (1991)
		Fromm, M., et al., "Expression of genes transferred into monocot and dicot plant cells by electroporation", <u>Proc. Natl. Acad. Sci. USA</u> , Vol. 82, pp. 5824-5828 (1985)
		Fromm, M.E., et al., "Inheritance and Expression of Chimeric Genes in the Progeny of Transgenic Maize Plants", <u>Bio/Technology</u> , Vol. 8, pp. 833-839 (1990)
		Fromm, M.E., et al., "Stable transformation of maize after gene transfer by electroporation", <u>Nature</u> , Vol. 319(27) pp. 791-793 (1986)
		Fu, Z.F. et al, "Oral vaccination of raccoons ( <i>Procyon lotor</i> ) with baculovirus-expressed rabies virus glycoprotein", <u>Vaccine</u> , 11(9):925-928 (1993)
		Fütterer, J., et al., "Cauliflower mosaic virus as a gene expression vector for plants", <u>Physiol. Plant</u> , Vol. 79, pp. 154-157, Copenhagen 1990
		Ganem, D. et al., "The Molecular Biology of the Hepatitis B Viruses", <u>Ann. Rev. Biochem</u> , 56:651-693 (1987)

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OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)

		Gatenby, A.A., "Regulation and Expression of Plant Genes in Microorganisms", <u>Plant Biotechnology</u> , pp. 93-112, Kung/Arntzen ed., (1989)
		Glass, R.I. et al., "Nucleotide Sequence of the Structural Glycoprotein VP7 Gene of Nebraska Calf Diarrhea Virus Rotavirus: Comparison with Homologous Genes from Four Strains of Human and Animal Rotaviruses", <u>Virology</u> , 141:292-298 (1985)
		Godet, M., et al., "Processing and Antigenicity of Entire and Anchor-Free Spike Glycoprotein S of Coronavirus TGEV Expressed by Recombinant Baculovirus," <u>Virology</u> , Vol. 185, pp. 732-740 (1991)
		Gordon-Kamm, W.J., et al., "Transformation of Maize Cells and Regeneration of Fertile Transgenic Plants", <u>The Plant Cell</u> 2:603-618 (July 1990)
		Haq, T.A. , et al., "Oral Immunization with a Recombinant Bacterial Antigen Produced in Transgenic Plants", <u>Science</u> 268:714-716 (May 5, 1995) XP002024034
		Hess, D., "Pollen-Based Techniques in Genetic Manipulation", <u>Review of Cytology</u> , Vol. 107, pp. 367-395 (1987)
		Hinchee, M.A.W., et al., "Production of Transgenic Soybean Plants Using Agrobacterium-Mediated DNA Transfer", <u>Bio/Technology</u> , Vol. 6, pp. 915-922 (1988)
		Hoffman, L., et al., "A Modified Storage Protein in Synthesized, Processed, and Degraded in the Seeds of Transgenic Plants," <u>Plant Molecular Biology</u> , Vol. 11, pp. 717-729 (1988)
		Hoffman, L., et al., "Progress Toward Malaria Preerythrocytic Vaccines", <u>Science</u> , Vol. 252, pp. 520-521 (1991)
		Horsch, R.B., et al., "Leaf Disc Transformation", <u>Plant Molecular Biology Manual A5:1-9</u> (1988)

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OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)

		Jacobs, L. et al., "The nucleotide sequence of the peplomer gene of porcine transmissible gastroenteritis virus (TGEV): comparison with the sequence of the peplomer protein of feline infectious peritonitis virus (FIPV)", <i>Virus Research</i> 8:363-371 (1987)
		Kaslow, D.C., et al., "Induction of Plasmodium falciparum Transmission-Blocking Antibodies by Recombinant Vaccinia Virus", <i>Science</i> , 252, pp. 1310-1313 (1991)
		Khusmith, S., et al., "Protection Against Malaria by Vaccination with Sporozoite Surface Protein 2 Plus CS Protein", <i>Science</i> , 252, pp. 715-718 (1991)
		Klee, H., et al., "Agrobacterium-Mediated Plant Transformation and its Further Applications to Plant Biology", <i>Ann. Rev. Plant Physiol.</i> , 1987, 38:467-486
		Klee, H.J., et al., "Transformation of Plants by Agrobacterium Tumefaciens", <i>Cell Culture and Somatic Cell Genetics of Plants</i> , Vol. 6, <i>Molecular Biology of Plant Nuclear Genes</i> , pp. 2-25 (1989)
		Klein, T.M. et al., "Factors Influencing Gene Delivery into Zea Mays Cells by High-Velocity Microprojectiles", <i>Bio/Technology</i> , Vol. 6, pp. 559-563 (1988)
		Klein, T.M., et al., "Applications of the Particle Gun in Plant Biology", <i>Progress in Plant Cellular and Molecular Biology</i> , pp. 56-66
		Kovgan, A.A. Chemical Abstracts, 110:207163 (Abstract No. 207160n) "Potential Vector for Introducing Animal Virus Genes into Cells of Higher Plants", abstract of an article in <i>Biotehnologiya</i> 5:148-54 (1989)
		Kupper, Hans, et al, "Cloning of cDNA of major antigen of foot and mouth disease virus and expression in <i>E. coli</i> ", <i>Nature</i> 289:560-569 (1981)
		Kuriyana, S., et al., "Enhancing Effects of Oral Adjuvants on Anti-HBs Responses Induced by Hepatitis B Vaccine", <i>Clin. Exp. Immunol.</i> , 72:383-389 (1988) (abstract)

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		Lanar, D., et al., "Identification of Paramyosin as Schistosome Antigen Recognized by Intradermally Vaccinated Mice", <u>Science</u> , 234:593-596 (1986)
		Larkins, B., et al., "Transcriptional Regulation of Maize Zein Gene", (abstract), <u>J. Cell. Biochem. Suppl.</u> 0 (9 part C), p. 264 (1985)
		Laude, H., et al., "Molecular biology of transmissible gastroenteritis virus", <u>Veterinary Microbiology</u> 23:147-154 (1990)
		Liew, F.Y., ed., <u>Vaccination Strategies of Tropical Diseases</u> (1989) table of contents only
		Lubeck, M.D., "Immunogenicity and Efficacy Testing in Chimpanzees of an Oral Hepatitis B Vaccine Based on Live Recombinant Adenovirus", <u>Proc. Natl. Acad. Sci. USA</u> , 86:6763-6737 (1989) (abstract)
		Mackow, E. et al., "Immunization with Baculovirus-Expressed VP4 Protein Passively Protects against Simian and Murine Rotavirus Challenge", <u>J. of Virology</u> 64(4):1698-1703 (April 1990)
		Mackow, E. et al., "The Rhesus Rotavirus Outer Capsid Protein VP4 Functions as a Hemagglutinin and is Antigenically Conserved When Expressed by a Baculovirus Recombinant", <u>J. Virology</u> , 64(4) 1661-1668 (April 1989)
		Maloney, M.M. et al., "High efficiency transformation of <u>Brassica napus</u> using <u>Agrobacterium</u> vectors", <u>Plant Cell Reports</u> 8:238-242 (1989)
		Maniatis, T., et al., <u>Molecular Cloning, A Laboratory Manual</u> , Cold Spring Harbor (1982), p. 368-369
		Maskell, D., et al., "Attenuated <u>Salmonella typhimurium</u> as Live Oral Vaccines and Carriers for Delivering Antigens to the Secretory Immune System", <u>Vaccines</u> 86, Cold Spring Harbor Lab, N.Y., pp. 215-217 (1986)

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		Mason, H.S., et al., "Expression of Candidate Oral Vaccine Antigens in Transgenic Plants", <u>Journal of Cellular Biochemistry Supplement</u> , 18a:98 (1994)
		Mason, H.S. et al., "Expression of Hepatitis B Surface Antigen in Transgenic Plants", <u>Proc. Natl. Acad. Sci. USA</u> , Vol. 89, pp. 11745-11749 (1992)
		Mason, H. et al., "Transgenic plants as vaccine production systems", <u>Trents in Biotechnology</u> , 13(9):388-392 (September 1995) (XP001013024)
		Mason, H. et al., "Immunogenicity of Candidate Vaccine Antigens Produced in Transgenic Plants", (Abstract) 4th International Congress of Plant Molecular Biology (June 1994)
		McAdam, K.P.W.J., <u>New Strategies in Parasitology</u> (1989), table of contents only
		McCabe, D.E., et al., "Stable Transformation of Soybean (Glycine Max) by Particle Acceleration", <u>Bio/Technology</u> 6:923-926 (1988)
		McCormick, S. et al., "Leaf disc transformation of cultivated tomato (L. esculentum) using Agrobacterium tumefaciens", <u>Plant Cell Reports</u> 5:81-84 (1986)
		Melnick, J.L., "Virus Vaccines: Principles and Prospects", <u>Bulletin of the World Health Organization</u> , 67(2):105-112 (1989)
		Mitchell, G.F., "Glutathione S-transferases-Potential Components of Anti-schistosome Vaccines?", <u>Parasitology Today</u> 5:34-37 (1989)
		Miyanohara, et al., "Expression of Hepatitis B Surface Antigen Gene in Yeast", <u>Proc. Nat'l Acad. Sci. USA</u> 80:105 (1983)
		Moffat, A.S. "Genetically Engineered Plants Point Toward Edible Vaccines", <u>Genetic Engineering News</u> , L3(12):1, 19 (June 15, 1993)

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		Moffat, A.S., "Exploring Transgenic Plants as a New Vaccine Source", <u>Science</u> 268:658-660 (1995)
		Murray, P.K., "Molecular vaccines against animal parasites", <u>Vaccines</u> , 7:291-299 (1989)
		Neuhaus, G., et al., "Transgenic rapeseed plants obtained by the microinjection of DNA into microspore-derived embryos", <u>Theor. Appl. Genet.</u> 75:30-36 (1987)
		Neuhaus, G., et al., "Plant transformation by microinjection techniques", <u>Physiologia Plantarum</u> , 79:213-217, Copenhagen (1990)
		Ohta, Yasuo, "High-efficiency genetic transformation of maize by a mixture of pollen and exogenous DNA", <u>Proc. Nat'l. Acad. Sci. USA</u> , 83:715-719 (1986)
		Ohtani, T., et al., "Normal and Lysine-Containing Zeins are Unstable in Transgenic Tobacco Seeds", <u>Plant Molecular Biology</u> , 16:117-128 (1991)
		Pasek, M., et al., "Hepatitis B virus genes and their expression in <i>E. coli</i> ", <u>Nature</u> 282:575-579 (1979)
		Paszkowski, J., et al., "Cell Culture and Somatic Cell Genetics of Plants", Vol. 6, <u>Molecular Biology of Plant Nuclear Genes</u> pp. 52-68 (1989)
		Paul, P.S. et al, "Immunogens of rotaviruses", <u>Veterinary Microbiology</u> , 37:299-317 (1993)
		Peng, Y.W., et al., "Organization and development of horizontal cells in the goldfish retina, I: The use of monoclonal antibody AT101", <u>Visual Neuroscience</u> , 6:357-370 (1991)
		Persing, D.H., et al., "A frameshift mutation in the pre-S region of the human hepatitis B virus genome allows production of surface antigen particles but eliminates binding to polymerized albumin", <u>Proc. Nat'l. Acad. Sci. USA</u> 82:3440-3444 (1985)

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OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)

		Porta, C. et al., "Cowpea Mosaic Virus as an Efficient Epitope Presentation System", (Abstract) 4th International Congress of Plant Molecular Biology (June 1994)
		Porta, C. et al., "Development of Cowpea Mosaic Virus as a High-Yielding System for the Presentation of Foreign Peptides", <u>Virology</u> 202:949-955 (August 1994) (XP002024036)
		Potrykus, I., "Gene Transfer to Plants: Assessment of Published Approaches and Results", <u>Annu. Rev. Plant Physiol., Plant Mol. Biol.</u> 42:205-225 (1991)
		Raineri, D.M., et al., "Agrobacterium-Mediated Transformation of Rice ( <i>Oryza Sativa L.</i> ), <u>Bio/Technology</u> 8:33-38 (1990)
		Rasschaert, D. et al., "The Predicted Primary Structure of the Peplomer Protein E2 of the Porcine Coronavirus Transmissible Gastroenteritis Virus", <u>J. Gen. Virol.</u> 68:1883-1890 (1987)
		Rhodes, C.A., et al., "Genetically Transformed Maize Plants from Protoplasts", <u>Science</u> , 240:204-207 (1989)
		Richman, L.K., et al., "Enterically Induced Immunologic Tolerance, I. Induction of Suppressor T Lymphocytes by Intragastric Administration of Soluble Proteins", <u>J.          Immunol.</u> , 121:2429-2434 (1978)
		Rocha-Sosa, et al., "Both Developmental and Metabolic Signals Activate the Promoter of a Class 1 Patatin Gene", <u>The EMBO Journal</u> , 8(1):23-29 (1989)
		Saif, L.J., "Coronavirus immunogens", <u>Veterinary Microbiology</u> , 37:285-297 (1993) (XP002024044)
		Salfeld, J., et al., "Antigenic Determinants and Functional Domains in Core Antigen and e Antigen from Hepatitis B Virus", <u>J. Virology</u> , 63(2):798-808 (1989)

Section 2. Form PTO - 1449 (Modified)

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE (Modified) PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE	ATTY. DOCKET NO.	SERIAL NO.
	P00245US9	09/111,330
STATEMENT BY APPLICANT (Use several sheets if necessary) (37 CFR 1.98(b))	APPLICANTS	
	ARNTZEN, ET AL.	
	FILING DATE	GROUP
	July 7, 1998	1742

OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)

		Sanchez, C.M., et al., "Genetic Evolution and Tropism of Transmissible Gastroenteritis Coronaviruses", <u>Virology</u> , 190:92-105 (1992)
		Sanford, J.C., "Biostatic Plant Transformation", <u>Physiol. Plant.</u> 79:206-209 (1990)
		Schodel, F., et al., "Recombinant HBV Core Particles Carrying Immunodominant B-cell Epitopes of the HBV Pre-S2 Region", <u>Vaccines 90</u> , published by Cold Spring Harbor Laboratory Press (Cold Spring Harbor, NY), F. Brown, et al., eds. pp. 293-198 (1990)
		Schodel, F., et al., "Expression of Hepatitis B Virus Antigens in Attenuated Salmonellae for Oral Immunization", <u>Res. Microbiol.</u> , 141:831-837 (1990) (abstract)
		Schodel, F., et al., "Expression of Hepatitis B Virus Core T-cell Epitopes and pre-S2 B-cell Epitope as Fusion Protein with LT-B in Salmonella for Oral Vaccine", <u>Progress in Hepatitis B Immunization</u> , published by Colloque INSERM/John Libbey Eurotext Ltd., Coursaget, P., et al., eds., 43-60 (1990)
		Service, R.F., "Triggering the First Line of Defense", <u>Science</u> 265:1522-1524 (1995)
		Shanin, E.A., "Gene Transfer System for Potato", <u>Hort. Science</u> , 21:1199-1201 (1986)
		Shimamoto, K. et al., "Fertile transgenic rice plants regenerated from transformed protoplasts", <u>Nature</u> 338:274-276 (1989)
		Thanavala, Y., et al., "Immunogenicity of transgenic plant-derived hepatitis B surface antigen", <u>Proc. Natl. Acad. Sci. USA</u> , 92:3358-3361 (Apr 1995) XP002024002)
		Toriyami, K. et al., "Transgenic rice plants after direct gene transfer into protoplasts", <u>Bio/Technology</u> 6:1072-1074 (1988)
		Touchette, N., "AIDS Research and Mucosal Immune Studies Begin to Gel", <u>The Journal of NIH Research</u> , 3:65-70 (1991)

Section 2. Form PTO - 1449 (Modified)

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE (Modified) PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE  STATEMENT BY APPLICANT (Use several sheets if necessary) (37 CFR 1.98(b))	ATTY. DOCKET NO. P00245US9	SERIAL NO. 09/111,330
	APPLICANTS ARNTZEN, ET AL.	FILING DATE July 7, 1998

OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)

		Umbeck, P. et al., "Genetically Transformed Cotton ( <i>Gossypium Hirsutum L.</i> ) Plants", <i>Bio/Technology</i> 5:263-266 (1987)
		Usha, R. et al., "Expression of an Animal Virus Antigenic Site on the Surface of a Plant Virus Particle", <i>Virology</i> , 197:366-374 (1993)
		Valenzuela, P. et al., "Synthesis and assembly of hepatitis B virus surface antigen particles in yeast", <i>Nature</i> 298:347-350 (1982)
		Vaughn, E. et al., "Sequence Comparison of Porcine Respiratory Coronavirus Isolates Reveals Heterogeneity in the S, 3, and 3-1 Genes", <i>J. Virology</i> 69:3176-3184 (May 1995)
		Watson, J.D., <i>Recombinant DNA: A Short Course</i> , Cold Spring Harbor Laboratory, Chapter 13, pp. 164-175
		Weber, J.L., "Plasmodium berghei: Cloning of the Circumsporozoite Protein Gene", <i>Exp. Parasitology</i> 63:295-300 (1987)
		Weising, K. et al., "Foreign Genes in Plants: Transfer, Structure, Expression, and Applications", <i>Annu. Rev. Genet.</i> , 22:421-477 (1988)
		Wenzler, H.C., et al., "Analysis of a chimeric class-I patatin-GUS gene in transgenic potato plants: High-level expression in tubers and sucrose-inducible expression in cultured leaf and stem explants", <i>Plant Mol. Biol.</i> 12:41-50 (1989)
		White, F.F., Chapter 1, "Vectors for Gene Transfer in Higher Plants", <i>Plant Biotechnology</i> , pp. 3-34 (1989)
		Wu, R., Chapter 2, "Methods for Transforming Plant Cells", <i>Plant Biotechnology</i> , 35-51 (1989)
		Zhen, Fang Fu et al., "Oral vaccination of raccoons ( <i>Procyon lotor</i> ) with baculovirus-expressed rabies virus glycoprotein", <i>Vaccine</i> , Vol. 11, Issue 9 (1993)

Section 2. Form PTO - 1449 (Modified)

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	FILING DATE July 7, 1998	GROUP 1742

OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)

		Zhang, H.M. et al., "Transgenic rice plants produced by electroporation-mediated plasmid uptake into protoplasts", <u>Plant Cell Rep.</u> , 7:379-384 (1988)
		Zhang, W., et al., "Efficient regeneration of transgenic plants from rice protoplasts and correctly regulated expression of the foreign gene in the plants", <u>Theor. Appl. Genet.</u> , 76:835-840 (1988)
		Zhang, S. et al., "Boosted Mucosal Immune Responsiveness in the Intestine by Actively Transported Hexose", <u>Gastroenterol.</u> , Vol. 103, pp. 1162-1166 (1992)

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